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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/528,245 | 11/03/2005 | Christian Boehlau | 7395-000022/NP | 2515 |

27572 7590 10/04/2006

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| EXAMINER | |
|---|---|
| KO, TONY | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2878 | |

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/528,245 | BOEHLAU ET AL. | |
| | Examiner | Art Unit | |
| | Tony Ko | 2878 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 2005* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. PCT/EP03/10238.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/17/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 9/25/02. It is noted, however, that applicant has not filed a certified copy of the 102-44-641.5 application as required by 35 U.S.C. 119(b).

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of the following informalities: In pages 11 and 13 of the disclosure, applicant fails to disclose the integration of an optical transmitter and/or receiver system into a central support structure of a laser scanner. It is also unclear as to how reflector (47) moves in relation to the light emitting modules.

Appropriate correction is required.

### *Drawings*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "32" in figures 1 and 2 have been used to designate different parts, however with the same number. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Regarding claims 1-24, the phrase "preferably" and "in particular" render the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear the how the transmitter module "extend free of overlap at least partly, preferably at least inside a near region of the sensing device relevant to the safety of the eyes". Due to the lack of antecedent problem, the claim is not treated on the merits. Correction is recommended.

7. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As understood, there's only one deflection device in the

claimed invention. The common deflection device in claim 12 lacks antecedent basis. Correction is recommended.

8. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what applicant meant by "... and the receiver device lie on one line at least in projection onto a common transmitter/receiver plan". Further, antecedent basis problem in claim 16 also needs to be addressed.

9. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what applicant intend to claim. "On the one hand", "on the other hand", "the radiation exit surface of the sensing device" all lack of antecedent basis. Correction is required.

10. Claim 2 recites the limitation "the sensing unit" in line 4. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 2 recites the limitation "the eye" in line 4. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 3 recites the limitation "the fronts of the transmitted radiation" in line 3. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 3 recites the limitation "the individual radiation fronts" in line 4. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 3 recites the limitation "the respective application" in line 5. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 4 recites the limitation "the radiation front" in line 3. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 9 recites the limitation "the shape of a total radiation front jointly generated by the transmitter modules" in line 3. There is insufficient antecedent basis for this limitation in the claim.

17. Claims 23 and 24 provides for the use of optoelectronic device, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 23 and 24 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1, 3, 4, 5, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Akasu (5,552,893).

20. Regarding claim 1, Akasu discloses (Fig. 1) an optoelectronic sensing device, in particular a laser scanner, comprising a transmitter device (laser light source) for the transmission of electromagnetic radiation, preferably pulsed electromagnetic radiation, at least one receiver device (3) associated with the transmitter device and at least one deflection device (21) can be directed into a monitored zone and radiation reflected from the monitored zone can be directed onto the receiver device, characterized in that the transmitter device includes a plurality of transmitter modules (11-13), preferably precisely two transmitter modules (11, 12), which are spatially separate from one another and which each transmit radiation along their own propagation path.

21. Regarding claim 3, as understood, Akasu discloses the transmitter modules (11, 12) are made and aligned such that the fronts of the transmitted radiation together form a total radiation front in the monitored zone which is preferably larger than each of the individual radiation fronts at least at distances relevant to the respective application.

22. Regarding claim 4, Akasu discloses the transmitter modules are each made for the transmission of an elongated radiation front, with the radiation front preferably being a continuous radiation line or being formed by discrete radiation spots arranged along a line.

23. Regarding claim 5, Akasu discloses the transmitter modules each include at least one laser diode (Col. 4, Lines 30-35) as a radiation source which is designed fro the transmission of a linear or line-shaped radiation front.

24. Regarding claim 6, Akasu discloses an optical transmitter system preferably provided in the form of a lens (14) is positioned in front of each transmitter module.

25. Regarding claim 8, Akasu discloses a common receiver device is associated with the transmitter modules (3).

26. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

27. Claims 1, 9-16, 19 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi (U.S. Patent 6,649,904).

28. Regarding claims 1, 22 - 24, Hayashi discloses (Figs. 2-4) an optoelectronic sensing device and the method of using, in particular a laser scanner, comprising a transmitter device for the transmission of electromagnetic radiation, preferably pulsed electromagnetic radiation, at least one receiver device (116) associated with the transmitter device (110) and at least one deflection device (115), with which radiation transmitted by the transmitter device (110) can be directed into a monitored zone and

radiation reflected from the monitored zone can be directed onto the receiver device, characterized in that the transmitter device (110) includes a plurality of transmitter modules, preferably precisely two transmitter modules (projectors), which are spatially separate from one another and which each transmit radiation along their own propagation path.

29. Regarding claim 9, as understood, Hayashi discloses (Fig. 3b) the receiver device has an areal radiation receiver which is preferably matched to the shape of a total radiation front jointly generated by the transmitter modules.

30. Regarding claim 10, Hayashi discloses the receiver device (101-104), in particular an areal radiation receiver, is divided into a plurality of receiver regions which can each be evaluated separately from one another and which each prefereaby include on one or more photodiodes (each receiver inherently has one or more photodiodes), with at least one receiver region being associated with each transmitter module.

31. Regarding claim 11, Hayashi discloses an optical receiver system is associated with each receiver device and is preferably disposed in a common transmitter/receiver positioned in front of the transmitter modules. That is, the projector 110 and receiver 116 are located in the same housing with a common plane.

32. Regarding claim 12, Hayashi discloses a common deflection device (115) is associated with the transmitter modules (110).

33. Regarding claim 13, Hayashi discloses the deflection device (115) is rotatable and is in particular made to carry out a continuous rotary movement at a constant rotational speed (Col. 4, Lines 1-10).

34. Regarding claim 14, Hayashi discloses the deflection device (115) has at least one planar reflection surface for radiation transmitted by the transmitter modules (110) and reflected from the monitored zone, with the radiation transmitted by the transmitter modules (110) and the radiation reflected from the monitored zone preferably being incident on the reflection surface at regions spatially separate from one another.

35. Regarding claim 15, Hayashi discloses a reflection surface (one of the surface 115) of the deflection device extends at an inclination to a common transmitter/receiver plane of the transmitter modules and of the receiver device and in that the deflection device is rotatable around an axis extending APPROXIMATELY perpendicular to the transmitter/receiver plane.

36. Regarding claim 16, as understood, Hayashi discloses (Fig. 3(a)) the transmitter modules are arranged to the side of a common receiver device (116), preferably such that the transmitter modules and the receiver device lie on one line at least in projection onto a common transmitter/receiver plane.

37. Regarding claim 19, Hayashi discloses the spacing between the transmitter modules (the left most and right most projector) is maximized such that the radiation transmitted by the transmitter modules is deflected by marginal regions of the deflection device (115).

38. Regarding claim 21, Reime discloses the transmitter modules CAN be controlled for the alternate transmission of radiation pulses.

39. Claims 1, 7, 17, 18, 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Reime (U.S. Patent 6,828,546).

40. Regarding claim 1 and 22, Reime discloses (Fig. 1) an optoelectronic sensing device and the method of operating the same, in particular a laser scanner, comprising a transmitter device (housing of 1 and 3) for the transmission of electromagnetic radiation, preferably pulsed electromagnetic radiation, at least one receiver device (2) associated with the transmitter device and at least one deflection device (31), with which radiation transmitted by the transmitter device can be directed into a monitored zone and radiation reflected from the monitored zone can be directed onto the receiver device, characterized in that the transmitter device includes a plurality of transmitter modules preferably precisely two transmitter modules (1 and 3), which are spatially separate from one another and which each transmit radiation along their own propagation path.

41. Regarding claim 7, Reime discloses the transmitter modules and/or optical transmitter system positioned in front of the transmitter modules are made with the same construction. (Col. 5, Lines 15-20).

42. Regarding claim 17, Reime discloses (Fig. 1) the transmitter modules are preferably arranged symmetrically on oppositely disposed sides of the receiver device.

43. Regarding claim 18, Reime discloses (Fig. 1) an axis of rotation of the deflection device extends centrally through the receiver device and the transmitter modules are arranged equally far away from the axis of rotation.

44. Regarding claim 20, as understood, Reime discloses (Fig. 1) the propagation path of the radiation transmitted by at least one transmitter module (3), on the one hand, and the receiving path of the radiation reflected from the monitored zone and directed

onto the receiver device (2), on the other hand, extend free of overlap in a near region including the radiation exit surface of the sensing device.

45. Regarding claim 21, Reime discloses the transmitter modules CAN be controlled for the alternate transmission of radiation pulses.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Ko whose telephone number is 571-272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

THANH X. LUU
PRIMARY EXAMINER

TKO